<table>
<thead>
<tr>
<th><strong>Morning Academic Time</strong></th>
<th><strong>Tuesday</strong></th>
<th><strong>Wednesday</strong></th>
<th><strong>Thursday</strong></th>
<th><strong>Friday</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Read and Respond</strong></td>
<td><strong>Shape Up</strong></td>
<td><strong>Read</strong></td>
<td><strong>Space Sudoku</strong></td>
<td><strong>Write a Poem about Outer Space</strong></td>
</tr>
<tr>
<td><em>What's it like in Space?</em></td>
<td><em>Solid Figures Review</em></td>
<td><em>Osiris-Rex Investigates Asteroid</em></td>
<td>Use the worksheet in Supplemental Resources</td>
<td>Choose a planet, spaceship, star, etc. to write a diamante poem. Use the template in the Supplemental Resources.</td>
</tr>
<tr>
<td>1.Use reading and questions in Supplemental Resources</td>
<td>Use worksheet in Supplemental Resources</td>
<td>Use reading and questions in Supplemental Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solar System Memory Game</strong></td>
<td><strong>Solar System Hat</strong></td>
<td><strong>Solar System Coloring Page</strong></td>
<td><strong>Friendship Sun</strong></td>
<td><strong>Review Planets Game:</strong></td>
</tr>
<tr>
<td>Cut out the cards from the template in Supplemental Materials.</td>
<td>Use the template and directions found in the supplemental material to color the planets in order and create a hat.</td>
<td>Use the page 4 to help color in the planets on page 5 on the solar system coloring sheet found in the supplemental materials</td>
<td>Create a sun that explains what a good friend is using the supplemental WS with a sun on it. In each box, write a quality that you observe a good friend to have. Use the sentence starter, &quot;A good friend is...&quot; (Ex A good friend is kincl.)</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td>*Flip them upside down. *Take turns flipping 2 over and seeing if you have a match.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Afternoon Academic Time</strong></td>
<td><strong>Explore Earth and Space with NASA's website SPACE PLACE</strong></td>
<td><strong>Measuring with NASA</strong></td>
<td><strong>Mystery Science</strong></td>
<td><strong>Hour of Code:</strong></td>
</tr>
<tr>
<td><strong>Explore the Solar System with National Geographic</strong></td>
<td>Complete the worksheet in Supplemental Materials</td>
<td>&quot;Why Do the Stars Change with the Seasons?&quot;</td>
<td>Use the materials in supplemental resources.</td>
<td>Star Wars: Building a Galaxy with Code</td>
</tr>
</tbody>
</table>
What's It Like in Space?

This text is adapted from an original work of the Core Knowledge Foundation.

In 1969, a group of American astronauts visited the moon on a rocket ship called Apollo 11. Since then, many more astronauts have traveled in space. Scientists have learned that there are many differences between Earth and space. One of the biggest differences has to do with gravity. Gravity is a force of attraction that pulls things toward one another. The force of gravity on Earth is pretty strong. Even the best jumpers can only jump a few feet off the ground. (Try it and see!)

![Image of children jumping]

Want to jump high? You will have to fight against gravity.

Two of the American astronauts who visited the moon were Buzz Aldrin and Neil Armstrong. When they were on the moon, they were easily able to jump up high. They didn't come down
quickly either. Instead, they seemed to float down slowly. That was because the force of gravity on the moon is not as strong as on Earth. The moon is not as big as Earth. So the force of gravity is not as strong on the moon.

If you think that is cool, wait until you read what happens out in space, away from the moon or planets. Out in space, astronauts do not feel the effects of gravity. They and their spaceship are moving freely in space. Since the astronaut and spaceship are moving freely together, the astronauts look and feel as if they are floating!

![Astronaut floating in space](image)

*This astronaut is inside a spaceship in space, where the force of gravity is less.*

Up in space, lots of things are different. You can do a flip and not worry about whether you will make it all the way around before you come down!
When you are free of the effects of gravity, it is easier to do flips and cartwheels.

Eating is different in space, too. I'll bet when you eat lunch at school, your food stays where you put it. If you set it on a table, it stays there until you pick it up. The force of gravity holds it down. But if you were up in space, you and your food would be moving freely together. If you let go of it, your food might drift away!
Look, no hands! These astronauts' lunches appear to be floating!

There are other differences in space besides less gravity. Did you know that the astronauts on the moon had to carry tanks of air for breathing? That's because another way outer space is different from Earth is that there is no air or oxygen at all in outer space. Look again at the image of the astronauts inside the spaceship. The astronauts are not carrying tanks of air. That's because oxygen is being pumped inside the spaceship.

Since there is no air in space, you also do not hear sounds in outer space. It is also very cold in space. The astronauts must train many months before going into space so they know what to expect. Do you think you would like to go into space some day?
This is what Earth looks like from the moon. Can you name some ways that being in space is different from being on Earth?
What's It Like in Space? - Comprehension Questions

Name: ___________________________ Date: __________________

1. Where are the effects of gravity stronger, on Earth or in space?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

2. Describe an example from the text that shows how gravity is different in space than on Earth.

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

3. There is no air in outer space. How does this affect people who go to outer space? Support your answer with details from the text.

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

4. What is the main idea of this text?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________
Shape Up

Draw a line to match each solid figure to its name.

- cone
- rectangular prism
- cylinder
- sphere
- cube

Identify three solid figures in the drawing.
**OSIRIS-REx Investigates Asteroid**

Bennu is an asteroid. Scientists at NASA, the U.S. space center, think Bennu can help us learn more about Earth and other planets. They also think the space rock might hit Earth in 2135. This could be dangerous. So, NASA sent a spacecraft, OSIRIS-REx, to learn about it now.

It will take almost two years for OSIRIS-REx to get there. First, it will take pictures of Bennu. Then, it will make a map. Next, a long arm will blow gas and grab some of Bennu's dust.

The dust might be made of the same stuff that first made up Earth and other planets. It will help scientists learn a lot.

---

**Timeline of OSIRIS-REx's Journey**

- **2016**: Launch
- **2018**: Reach Bennu; begin taking pictures and making a map of Bennu
- **2020**: Collect sample of dust from Bennu's surface
- **2021**: Leave Bennu and return to Earth
- **2023**: The SRC (Sample Return Capsule) carrying the dust from Bennu will break away from OSIRIS-REx. A parachute will bring it down to Earth. NASA plans for the SRC to land at the Utah Test and Training Range on September 24, 2023.
1. What is OSIRIS-REx?

2. Why are scientists interested in Bennu?

3. What words in the first paragraph help readers understand what an asteroid is?

4. How do the photograph and its caption add to readers' understanding of OSIRIS-REx?

5. What does the "Timeline of OSIRIS-REx's Journey" sidebar add to readers' understanding of the mission?

6. How does collecting dust relate to NASA's purpose for sending OSIRIS-REx to study Bennu?

7. What are some other space missions? What were the purposes and outcomes of each?

What are the benefits of studying objects in the universe? Make a list and write about why each is important.
COMMERCIAL CREW PROGRAM: WHAT'S IT ALL ABOUT?

Measuring with NASA's Commercial Crew Program

Directions: Engineers at NASA use measurement to help make each rocket launch successful. In the drawings below, practice your measurement skills with the items that will be part of the upcoming launch. Round the length of each item to the nearest centimeter using the markings next to each item and the centimeter ruler provided on the Rocket Launch Key Terms page. Use the key terms on the back to learn more about each of these items!

1. ____ cm
2. ____ cm
3. ____ cm
4. ____ cm
5. ____ cm
6. ____ cm
7. ____ cm

Want to learn more about the launch pad?
With your teacher's permission, research the actual height of the items cut on the launch pad for NASA's Commercial Crew Program in this activity!
1. **NASA Astronauts**: These will be the first American astronauts launching to the space station from American soil on American spacecraft since the Space Shuttle Program ended in 2011.

2. **Spacecraft**: Astronauts are buckled into the spacecraft located on top of the rocket during launch. The spacecraft will also dock to the space station and return astronauts safely to Earth after their mission.

3. **Rocket**: The rocket holds the fuel used to launch the spacecraft through the Earth’s atmosphere on its way to the International Space Station.

4. **Crew Access Arm**: Astronauts walk across the crew access arm as they enter the spacecraft located on top of the rocket launching them into space.

5. **Launch Tower**: The launch tower provides the rocket with stability, electricity and fuel before a launch. Astronauts travel up the launch tower as they get ready to board the spacecraft.

6. **Launch Pad**: The rocket rests on top of the launch pad before liftoff. During liftoff, the launch pad is designed to handle an extreme amount of fire and smoke caused by the rocket.

7. **Lightning Towers**: Towers placed on each launch pad are designed to attract lightning, protecting the rocket and launch tower from lightning strikes before liftoff.
Sudoku Sums of 11

Each row, column, and box must have the numbers 1 through 9.

Hint: Look for sudoku sums. The sum of the two boxes inside of the dashed lines is 11.

Here is an example of a sudoku sum of 11:

```
   5
   6
```

```
7  4  9  5
   6  1
   4  8
```

```
3  5
5  4
6
```

```
3  9  8

6  7
```

```
1  2
+ 25
```

```
28
```

```
6  10
23  32
11  26
9  28
```
Constellation Guide

Some constellations that you can see in the sky each season:

**spring**

- Bootes, the Ice Cream Cone
- Ursa Major, the Big Bear
- Leo, the Lion

**summer**

- Lyra, the Harp
- Sagittarius, the Teapot
- Scorpius, the Scorpion

**autumn**

- Cassiopeia, the Crown
- Pegasus, the Horse (head and front legs)
- Cygnus, the flying Swan

**winter**

- Canis Major, the Big Dog
- Orion, the Hunter
- Taurus, the Bull's horns
Universe
in a Box
**Diamante Poem**

To create a diamante poem, use the poem frame below, which asks you to use different parts of speech to describe your topic.

```
___ topic—a noun ___

___ adjective ___ adjective ___

___ verb ___ verb ___ verb ___

___ four-word phrase ___

___ verb ___ verb ___ verb ___

___ adjective ___ adjective ___

___ renaming noun ___
```